

AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A head-extended pile for supporting the load of a structure, wherein the pile has a cylindrical pile part, a reinforcement ~~part~~ member provided at the lower or front end of the pile and a reinforcing ~~part~~ member provided at the upper or rear end of the pile, the reinforcement ~~parts~~ members having a diameter larger than that of the pile whereby the front and rear end supporting force of the pile is increased, said reinforcement ~~parts comprising~~ reinforcing members vertically extending from opposite ends of the pile, said reinforcing members having respective lowermost and uppermost portions with a larger dimension than that of the pile and a transitional portion which extends from the outer circumference of the pile to said lowermost and uppermost portions, said transitional portion having a configuration which comprises a plurality of triangular reinforcing wings disposed around the pile while being spaced a prescribed distance from each other wherein the reinforcing ~~parts~~ members are integral or fixedly attached to the ~~pile~~ pile, and wherein said reinforcement members further comprise:

an iron disk having a prescribed depth and an inner diameter equal to the diameter of the cylindrical pile part;

a reinforcing disk attached to the iron disk, the reinforcing disk having a diameter larger than that of the iron disk; and

said reinforcing wings being attached to the outer circumference of the iron disk and to the upper surface of the reinforcing disk, wherein the reinforcing disk has a water-discharging hole formed through the center of the reinforcing disk.

Claims 2-6 (Cancelled)

7. (Withdrawn) A constructing method of introducing a head-extended pile in the ground composed of collapsible soil when the ground is bored, comprising the steps of:

selecting a pile, preparing and checking a pile driving operation, and removing obstructions (S10);

inspecting the ground to be constructed, reinforcing the ground, and installing a pile-driving machine (S20);

checking perpendicularity of a casing or a screw auger and a reader at the front and at the side to fix the position of the casing (S30);

checking a soil layer where the pile can be driven on the basis of excavation, a geological survey report, used current of an auger motor, the discharged amount of soil, and a trial pile driving operation so that the excavation is carried out by means of the casing and the screw auger (S40);

mixing water and cement by means of an exclusive mixer to obtain cement paste (S50);

injecting cement paste at high pressure after the screw auger is withdrawn (S60);

penetrating the screw auger again to stir the cement paste and treat the slime (S70);

slowly withdrawing the screw auger (S80);

erecting the head-extended pile so that the head-extended pile is penetrated by means of its own weight (S90);

slowly withdrawing the casing while the upper end of the pile is fixed by means of the screw auger (S100); and

driving the head-extended pile so that the pile can be penetrated (S110).

8. (Withdrawn) A constructing method of a head-extended pile in the ground composed of uncollapsible soil when the ground is bored, comprising the steps of:

selecting a pile, preparing and checking a pile driving operation, and removing obstructions (S200);

inspecting the ground to be constructed, reinforcing the ground, and installing a pile-driving machine (S210);

checking perpendicularity of a screw auger and a reader at the front and at the side to fix the position of the screw auger (S220);

checking a soil layer where the pile can be driven on the basis of excavation, a geological survey report, used current of an auger motor, the discharged amount of soil, and a trial pile driving operation so that the excavation is carried out by means of the screw auger (S230);

mixing water and cement by means of an exclusive mixer to obtain cement paste (S240);

withdrawing the screw auger (S250);

injecting the cement paste at high pressure (S260);

penetrating the screw auger again to stir the cement paste and treat the slime (S270);

erecting the head-extended pile so that the pile is penetrated by means of its own weight (S280); and

driving the head-extended pile so that the pile can be penetrated (S290).

9. (Withdrawn) The constructing method of a head-extended pile as set forth in claim 7, wherein the head-extended pile is directly driven so that the pile is penetrated in said step (S110 or S290), driving the head-extended pile.

10. (Withdrawn) The constructing method of a head-extended pile as set forth in claim 7, wherein the head-extended pile is inserted and then directly driven or securely located after said step (S40 or S230) excavating the soil layer.

11. (Withdrawn) The constructing method of a head-extended pile as set forth in claim 7, wherein the head-extended pile is directly penetrated while the head-extended pile is inserted in any one of a steel tube, a concrete tube, a synthetic resin tube, and a wood tube in said step (S90 or S270) penetrating the head-extended pile.

12. (Withdrawn) The constructing method of a head-extended pile as set forth in claim 7, wherein the head-extended pile is penetrated through the use of hydraulic pressure, pneumatic pressure, or pressure generated by chemical means in said step (S90 or S270) penetrating the head-extended pile.

Claims 13-14 (Cancelled)

15. (New) The head-extended pile of claim 1, wherein the pile is a solid concrete pile or a steel pile.

16. (New) The head-extended pile of claim 1, wherein the diameter of the lower reinforcing member is equal to the thickness of the lower reinforcing member and the slope ratio transitional portion is within the range of 1:1 to 1:10.